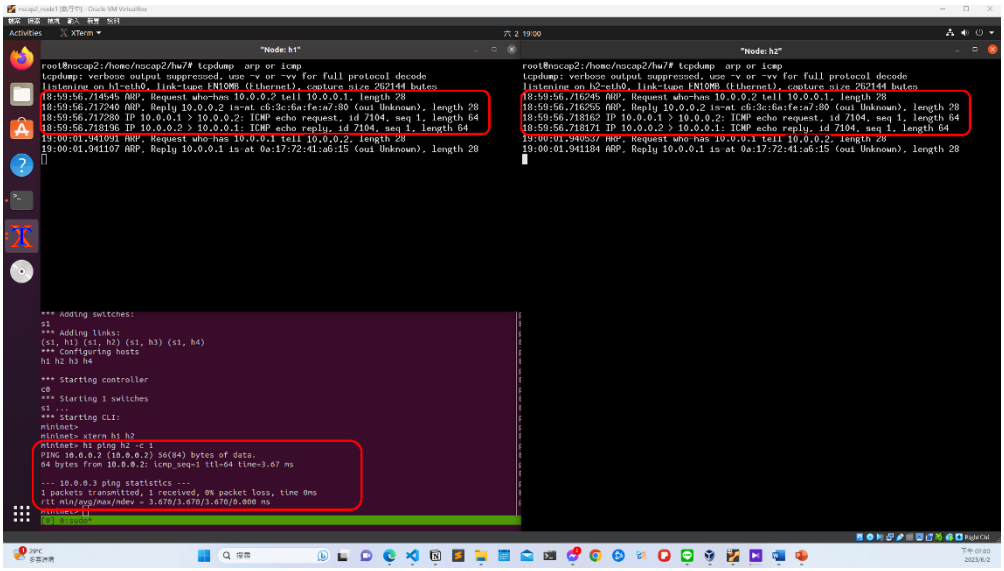
HW7 Report

林峻賢 0711540

Part I

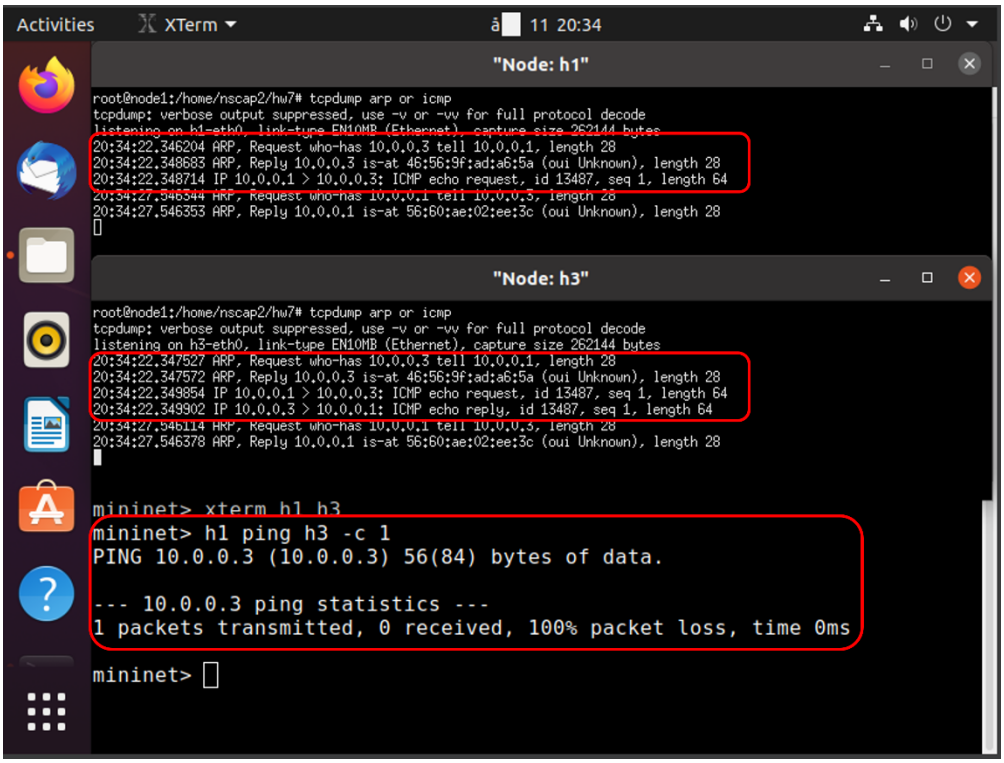
1. When h1 ping h2, what will happen?



ARP :
- h1 sent request
- h2 received and replied
- h1 received the reply

ICMP :
- h1 sent request
- h2 received and replied
- h1 received the reply

2. When h1 ping h3, what will happen?



ARP :

h1 sent request

h3 received and replied

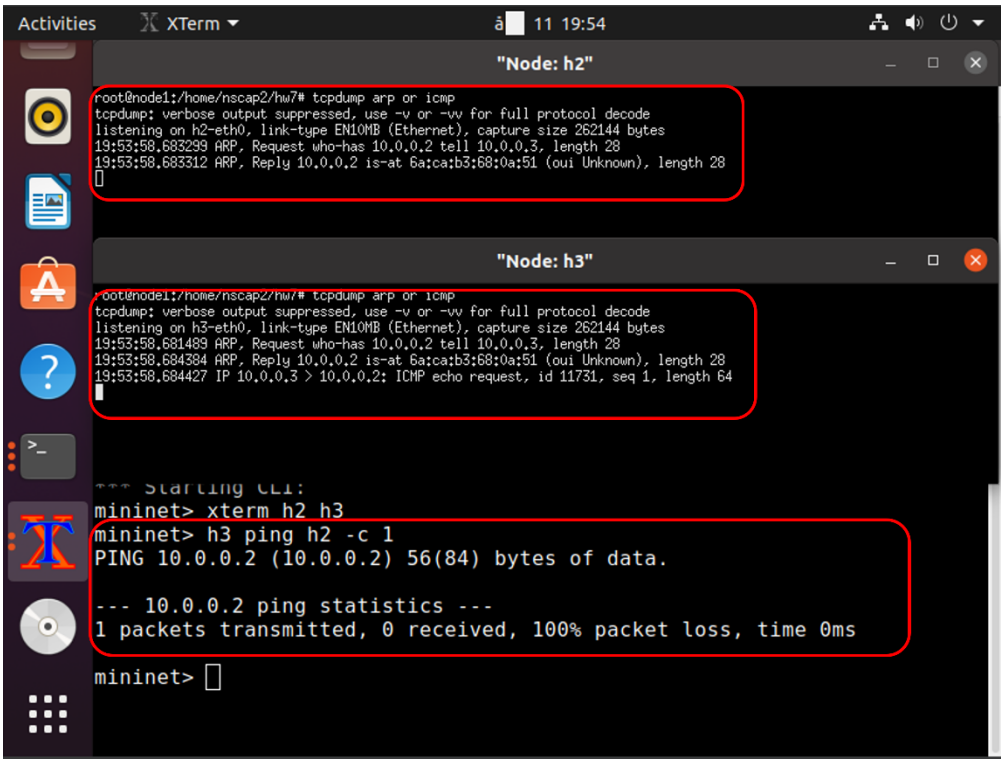
h1 received the reply

ICMP :

h1 sent request

h3 received and replied

3. When h3 ping h2, what will happen?



ARP :

h3 sent request

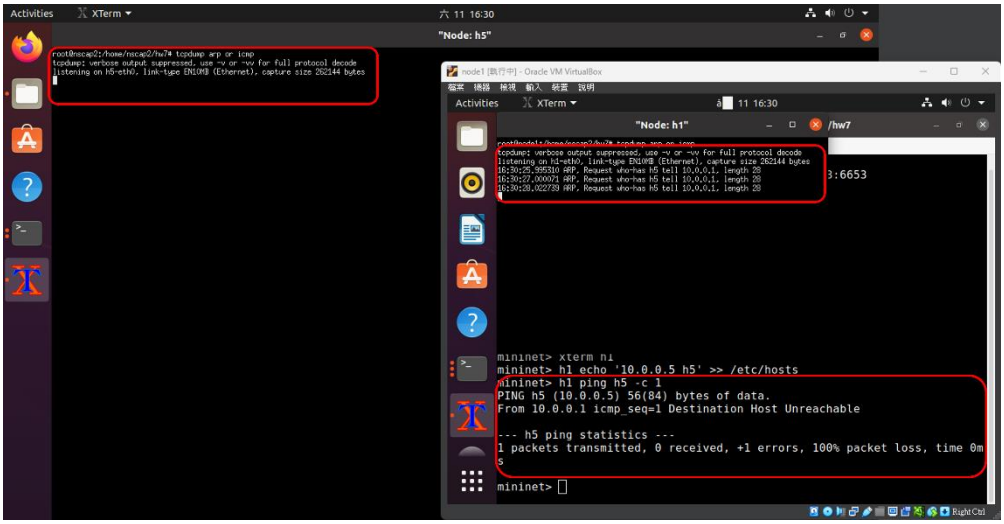
h2 received and replied

h3 received the reply

ICMP :

h3 sent request

4. When h1 ping h5, what will happen?

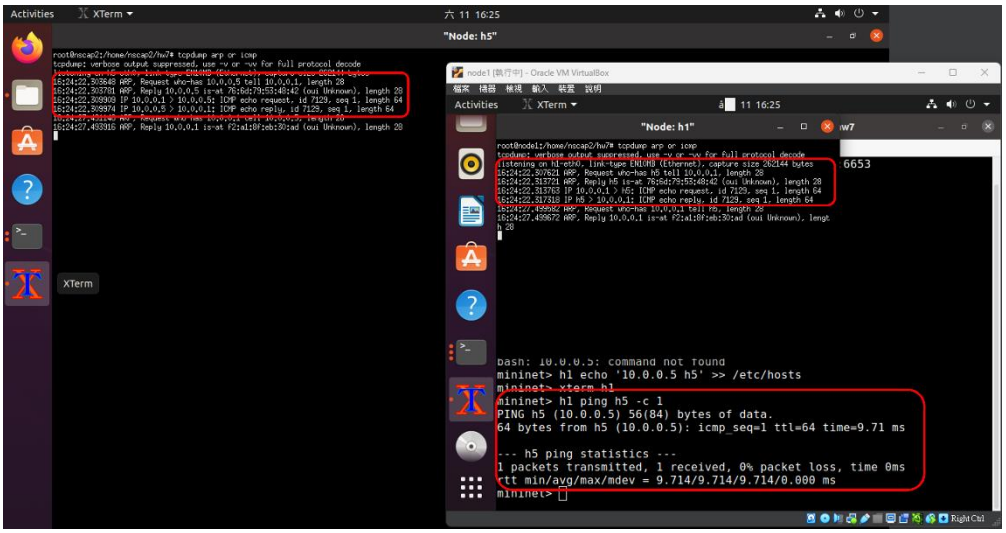


ARP :

h1 sent request * 3 times

Part II

5. When h1 ping h5, what will happen?



ARP :

h1 sent request

h5 received and replied

h1 received the reply

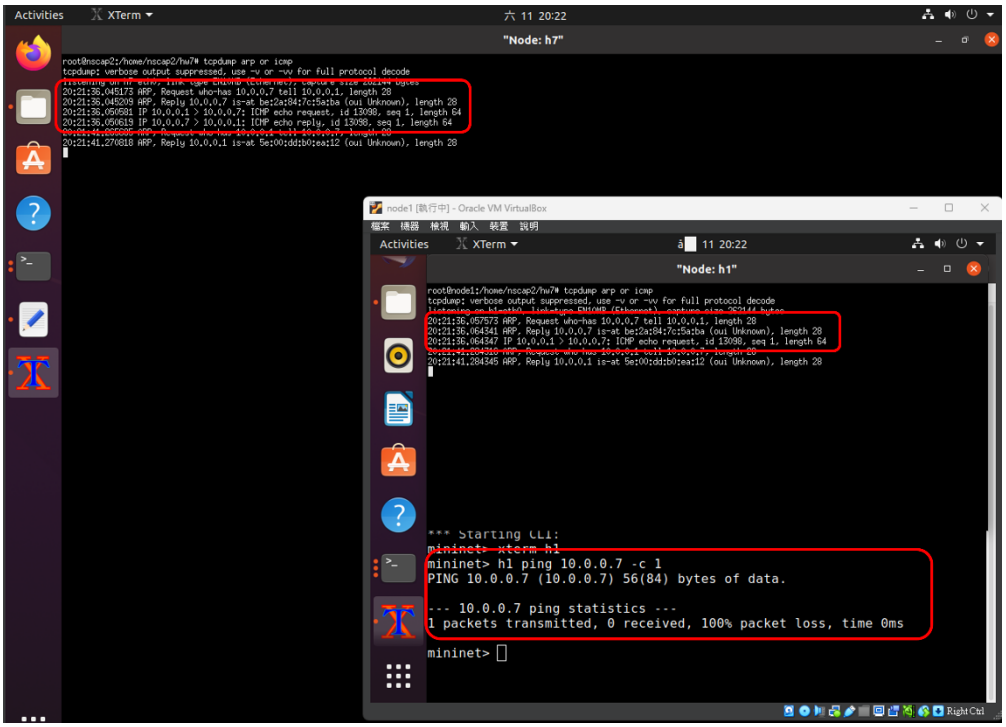
ICMP :

h1 sent request

h5 received and replied

h1 received the reply

6. When h1 ping h7, what will happen?



ARP :

h1 sent request

h7 received and replied

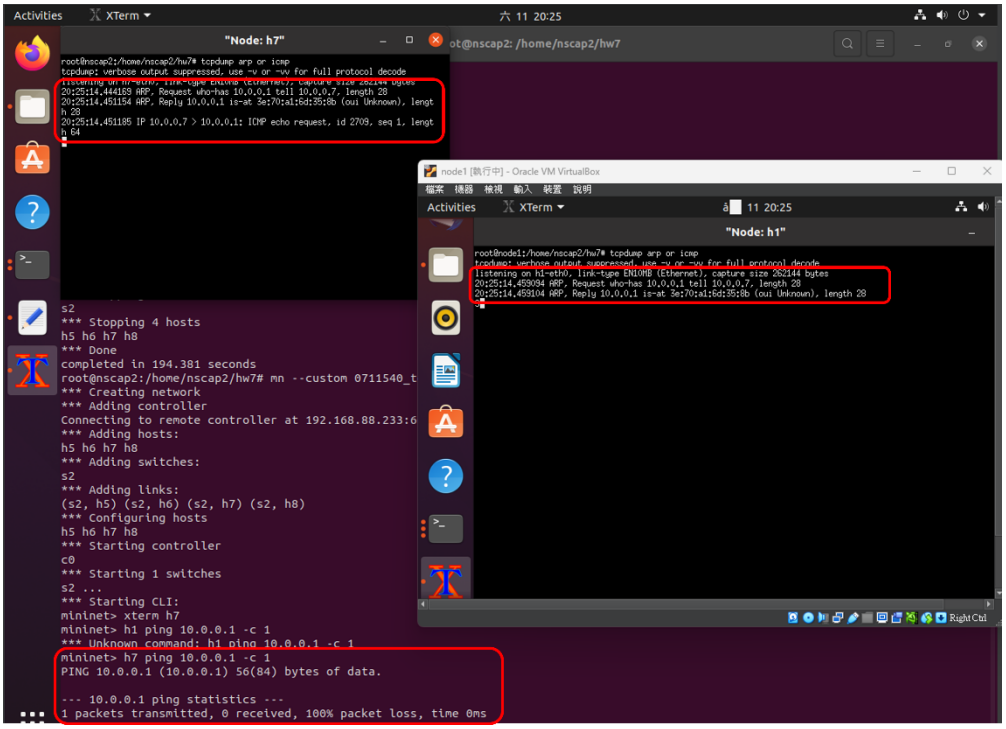
h1 received the reply

ICMP :

h1 sent request

h7 received and replied

7. When h7 ping h1, what will happen?



ARP :

h7 sent request

h1 received and replied

h7 received the reply

ICMP :

h7 sent request

8. If the packet in question 6 or 7 is dropped in some part of the network, are the outcome and explanation the same as that of question 4? (use screenshot to prove)

ANS：(同 Q4、6、7 圖)Q6、7(ping)失敗是因為 switch 2 將 h7 的 icmp request(or reply)丟棄；而 Q4(ping)失敗的原因是 ARP 協議找不到目標 host，兩個失敗原因是不同的。

9. Change filter_table2 rule

- From: packets coming from port_3 or port_4 will be dropped, while other packets will be allowed to pass.
  To: packets coming from port_1 or port_2 will be allowed to pass, while other packets will be dropped.
- Will the outcome of questions 5, 6, and 7 differ? (no need to print screenshot), explain why or why not.

ANS：

For Q5：

不同，由於 icmp request 將由 switch 2 送往 h5 時會觸發 filter2 規則，此封包將被丟棄。

For Q6：

相同，一樣都是 h7 發送 icmp reply 時被 switch 2 丟棄該封包。

For Q7：

相同，一樣都是 h7 發送 icmp request 時被 switch 2 丟棄該封包。